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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,425	11/08/2001	Shunpei Yamazaki	12732-081001	5239

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EXAMINER

SANTIAGO, MARICELI

ART UNIT PAPER NUMBER

2879

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/986,425

Applicant(s)

YAMAZAKI, SHUNPEI

Examiner

Mariceli Santiago

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Amendment, filed on November 8, 2001, has been entered and acknowledged by the Examiner.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4, 6-7, 9-10, 12-13, 15-16, 18-20 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanazaki (US 5,952,708) in view of Codama et al. (US 6,037,712).

Regarding claims 1, 3-4, 6-7, 9-10, 12, 20, 22 and 23, Yamazaki discloses a device comprising a first insulating layer (102) comprising silicon oxide (Column 2, lines 17-19), a second insulating layer (114) comprising silicon nitride oxide (Column 3, lines 55-60) and located over said first insulating layer (102), a thin film transistor formed between said first insulating layer (102) and said second insulating layer (114), said thin film transistor having a semiconductor layer (103) comprising silicon (Column 2, lines 20-23), a gate insulating film (104), and a gate electrode (105), a third insulating layer (116) comprising silicon nitride

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(Column 4, lines 19-22) located over said second insulating layer and a organic resin layer provided between the second insulating layer and the third insulating layer. While Yamazaki further discloses the use of the device assembly in EL type displays to provide adequate driving elements, it is silent in regards to the configuration of the EL element. However, in the same field of endeavor, Codama discloses an organic EL element comprising a light emitting element comprising an anode (2), an organic compound layer (6), and a cathode (7), partition layers (4, 5) comprising an insulating material (Column 5, lines 1-10), and an insulating layer (9) comprising carbon (Column 11, lines 19-28) and located over the EL element. Furthermore, Codama discloses the light-emitting element being formed between the partition layers, and wherein the organic compound layer and the cathode do not contact the partition layers (Fig. 1B). Codama also discloses the partition layers (4, 5) having a shape in which an upper portion (5) protrudes in a direction parallel to a substrate and spaced apart from the cathode (7) and the organic compound (6) of the light emitting elements, and wherein a distance between opposed edges of the adjacent partition layers at a top of the adjacent partition layers is smaller than a distance between opposed edges of the adjacent partition layers at a bottom portion of the adjacent partition layers (see Fig. 1B). The disclosed arrangement exemplifies a well known in the art EL element structure. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the EL element disclosed by Codama in the device of Yamazaki since Yamazaki teaches the general suitability of its device for EL elements to provide adequate driving elements to EL display devices.

In regards to the limitations of the first insulating layer comprising silicon nitride or silicon oxynitride and the cathode comprising an alkali metal, the Examiner notes that within the general skill of a worker in the art the selection of a known material on the basis of its suitability for as intended is recognized as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Thus, it would have been obvious to one having ordinary skills in the art at the time the

invention was made to have the provide the insulating material comprising silicon nitride or silicon oxynitride and a cathode material comprising an alkali metal, since the selection of known materials for a known purpose is within the skill of the art.

Regarding claims 13 and 15, Yamazaki discloses a device comprising a substrate (201), a gate electrode (203) located over the substrate (201), a first insulating layer (204) comprising silicon oxide (Column 6, lines 15-19) and located over the gate electrode, a semiconductor film (206) located over the first insulating film (204), a second insulating layer (211) comprising silicon oxynitride (Column 6, lines 64-67) and located over said semiconductor film (206), a third insulating layer (215) located over said second insulating layer and a organic resin layer provided between the second insulating layer and the third insulating layer. While Yamazaki further discloses the use of the device assembly in EL type displays to provide adequate driving elements, it is silent in regards to the configuration of the EL element. However, in the same field of endeavor, Codama discloses an organic EL element comprising a light emitting element comprising an anode (2), an organic compound layer (6), and a cathode (7), partition layers (4, 5) comprising an insulating material (Column 5, lines 1-10), and an insulating layer (9) comprising carbon (Column 11, lines 19-28) and located over the EL element, and wherein the light emitting element is formed between the partition layers (Fig. 1B), the disclosed arrangement exemplifies a well-known in the art EL element structure. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the EL element disclosed by Codama in the device of Yamazaki since Yamazaki teaches the general suitability of its device for EL elements to provide adequate driving elements to EL display devices.

In regards to the limitations of the first and third insulating layers comprising silicon nitride or silicon oxynitride and the cathode comprising an alkali metal, the Examiner notes that within the general skill of a worker in the art the selection of a known material on the basis of its

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suitability for as intended is recognized as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have the provide the insulating material comprising silicon nitride or silicon oxynitride and a cathode material comprising an alkali metal, since the selection of known materials for a known purpose is within the skill of the art.

Regarding claims 16, 18 and 19, Yamazaki discloses a device comprising a substrate, a first insulating layer (102) comprising silicon oxide (Column 2, lines 17-19) over the substrate, thin film transistors formed on the first insulating layer, a second insulating layer (114) comprising silicon nitride oxide (Column 3, lines 55-60) and located over the thin film transistors and a third insulating layer (116) comprising silicon nitride (Column 4, lines 19-22) located over said second insulating layer and an organic resin layer provided between the second insulating layer and the third insulating layer. While Yamazaki further discloses the use of the device assembly in EL type displays to provide adequate driving elements, it is silent in regards to the configuration of the EL element. However, in the same field of endeavor, Codama discloses an organic EL elements arranged in a matrix, and each EL element comprising a light emitting element comprising an anode (2), an organic compound layer (6), and a cathode (7), partition layers (4, 5) comprising an insulating material (Column 5, lines 1-10), and an insulating layer (9) comprising carbon (Column 11, lines 19-28) and located over the EL element, wherein the light emitting elements arranged in a same row or a same column of the matrix are disposed between and along adjacent ones of the partition layers and wherein the partition layers are spaced apart from the cathode and the organic compound of the light emitting elements (Fig. 1B), the disclosed arrangement exemplifies a well-known in the art EL element structure. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the EL element disclosed by Codama in the device of Yamazaki

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since Yamazaki teaches the general suitability of its device for EL elements to provide adequate driving elements to EL display devices.

In regards to the limitations of the first insulating layer comprising silicon nitride or silicon oxynitride and the cathode comprising an alkali metal, the Examiner notes that within the general skill of a worker in the art the selection of a known material on the basis of its suitability for as intended is recognized as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have the provide the insulating material comprising silicon nitride or silicon oxynitride and a cathode material comprising an alkali metal, since the selection of known materials for a known purpose is within the skill of the art.

Claims 2, 5, 8, 11, 14, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanazaki (US 5,952,708) in view of Codama et al. (US 6,037,712), and further in view of Jones et al. (US 6,069,443).

Regarding claims 2, 5, 8, 11, 14, 17 and 21, Yanazaki-Codama discloses the claimed invention except for the limitation of the fourth insulating layer comprising diamond-like carbon. In the same field of endeavor, Jones discloses a organic EL element a protective layer (192, i.e., fourth insulating layer) comprises diamond-like carbon. the Examiner notes that within the general skill of a worker in the art the selection of a known material on the basis of its suitability for as intended is recognized as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have the provide the insulating material diamond-like carbon, since the selection of known materials for a known purpose is within the skill of the art.

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Other Prior Art Cited

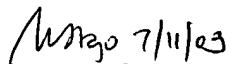
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

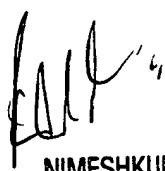
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (703) 305-1083. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382. Additionally, the following fax phone numbers can be used during the prosecution of this application (703) 872-9318 (for response before a Final Action) and (703) 872-9319 (for response after a Final Action).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Mariceli Santiago
Patent Examiner
Art Unit 2879


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